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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/482,023	01/13/2000	Devendra T. Barot		6462

7590                    11/06/2002

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[REDACTED] EXAMINER

RIDLEY, BASIA ANNA

[REDACTED] ART UNIT      [REDACTED] PAPER NUMBER

1764

DATE MAILED: 11/06/2002

Please find below and/or attached an Office communication concerning this application or proceeding.

<b>Office Action Summary</b>	Application No.	Attic(s)
	09/482,023	BAROT, DEVENDRA T.
	Examiner Basia Ridley <i>PR</i>	Art Unit 1764

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

#### Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

#### Status

- 1) Responsive to communication(s) filed on 13 August 2002.
- 2a) This action is **FINAL**.      2b) This action is non-final.
- 3) Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

#### Disposition of Claims

- 4) Claim(s) 10-29 is/are pending in the application.
- 4a) Of the above claim(s) 22-29 is/are withdrawn from consideration.
- 5) Claim(s) \_\_\_\_\_ is/are allowed.
- 6) Claim(s) 10 and 21 is/are rejected.
- 7) Claim(s) 11-20 is/are objected to.
- 8) Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

#### Application Papers

- 9) The specification is objected to by the Examiner.
- 10) The drawing(s) filed on 13 January 2000 is/are: a) accepted or b) objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- 11) The proposed drawing correction filed on \_\_\_\_\_ is: a) approved b) disapproved by the Examiner.  
If approved, corrected drawings are required in reply to this Office action.
- 12) The oath or declaration is objected to by the Examiner.

#### Priority under 35 U.S.C. §§ 119 and 120

- 13) Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).  
a) All b) Some \* c) None of:
  1. Certified copies of the priority documents have been received.
  2. Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  3. Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).\* See the attached detailed Office action for a list of the certified copies not received.
- 14) Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).  
a) The translation of the foreign language provisional application has been received.
- 15) Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121

#### Attachment(s)

- |   |  |
|---|--|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892)                     | 4) <input type="checkbox"/> Interview Summary (PTO-413) Paper No(s). _____ . |
| 2) <input checked="" type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152)  |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449) Paper No(s) _____ .  | 6) <input type="checkbox"/> Other: _____ .                                   |

## **DETAILED ACTION**

### ***Election/Restrictions***

1. Applicant's election without traverse of Group I, claim(s) 10-21, drawn to a quench gasifier, in Paper No. 4 is acknowledged. Claim(s) 22-29 is/are withdrawn from further consideration pursuant to 37 CFR 1.142(b).

### ***Specification***

2. The disclosure is objected to because of the following informalities:

✓ - CROSS-REFERENCE TO RELATED PATENT APPLICATIONS contains list of patents, which appear to be cited references and not related parent applications. See 37 CFR 1.78 and MPEP § 201.11. Suggested correction is to delete said cited patents. For references to be considered and printed on any patent resulting from the instant application they need to be submitted as information disclosure statement. See 37 CFR 1.97, 37 CFR 1.98 and MPEP § 609.

✓ - BACKGROUND OF THE INVENTION contains list of US classes. See MPEP § 608.01(c).  
Suggested correction is to delete said list.

Appropriate correction is required. Applicant is reminded that no new matter shall be added.

### ***Drawings***

✓ 3. The drawings are objected to as failing to comply with 37 CFR 1.84(p)(5) because they include the following reference sign(s) not mentioned in the description: "D<sub>1</sub>", "D<sub>2</sub>", "D<sub>3</sub>", "L<sub>1</sub>" and "L<sub>2</sub>". A proposed drawing correction, corrected drawings, or amendment to the specification to add the reference sign(s) in the description, are required in reply to the Office action to avoid abandonment of the application. The objection to the drawings will not be held in abeyance.

***Claim Objections***

✓4. Claim(s) 11-20 are objected to under 37 CFR 1.75(c) as being in improper form because they are dependent from a cancelled claim 1. Accordingly, the claim(s) 11-20 have not been further treated on the merits.

✓5. Claim(s) 10 and 21 is/are objected to because of the following informalities:

- claim(s) 10 and 21 recite(s) "a quench chamber adjacent said combustion chamber", line(s) 4, suggested correction is --a quench chamber adjacent to said combustion chamber--.

Appropriate correction is required. Applicant is reminded that no new matter shall be added.

***Claim Rejections - 35 USC § 112***

6. The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

7. Claim(s) 10 and 21 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

✓ Claim(s) 10 recite(s) the limitation(s) "the carbon" and "said feedstock" (line(s) 2), "said face" (line(s) 9, 11), "said ash" (line(s) 12). There is insufficient antecedent basis for said limitation(s) in the claim(s).

✓ Claim(s) 10 recite(s) the limitation(s) "up to about 3500°F" (line(s) 10 and 12). Said limitation(s) render(s) the claim(s) indefinite, as it is not clear what range(s) of recited condition(s) is/are covered by the term "about". See MPEP 2173.05(b).

✓ Claim(s) 10 recite(s) the limitation(s) "behind" (line(s) 11). Said claim(s) is/are indefinite

because the applicant has not established a reference point for said limitation(s). "Behind" with respect to what?

✓ Claim(s) 21 recite(s) the limitation(s) "the carbon" and "said feedstock" (line(s) 2). There is insufficient antecedent basis for said limitation(s) in the claim(s).

✓ Claim(s) 21 recite(s) the limitation(s) "behind" (line(s) 9). Said claim(s) is/are indefinite because the applicant has not established a reference point for said limitation(s). "Behind" with respect to what?

✓ 8. Claim(s) 10 and 21 is/are rejected under 35 U.S.C. 112, second paragraph, as being incomplete for omitting essential structural cooperative relationship(s) of elements, such omission amounting to a gap between the necessary structural connections. See MPEP § 2172.01. The omitted structural cooperative relationship(s) is/are the relationships between the various components of recited throat.

#### ***Claim Rejections - 35 USC § 103***

9. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

10. Claims 10 and 21 are rejected under 35 U.S.C. 103(a) as being unpatentable over Haneda et al. (JP 61-235493) in view of Takada et al. (JP 61-222939).

Regarding claim(s) 10, Haneda et al. disclose(s) similar quench gasifier comprising:

- a combustion chamber (1);
- a quench chamber (6) adjacent to said combustion chamber (1);

- said combustion chamber (1) including a throat (Fig. 2) for directing produced gases from the combustion chamber (1) to the quench chamber (6); wherein
- said throat includes an inlet, an outlet, and an inner surface between said inlet and said outlet (Fig. 2);
- said face comprising refractory material (11);
- an electrical heating element (14) behind said face.

While Haneda et al. does not explicitly disclose that said refractory material (11) can withstand temperature of up to about 3500°F, it was well known in the art at the time the invention was made to select refractory materials specifically for the purpose of withstanding operating temperatures, as evidenced by Takada et al. (Abstract). It would have been obvious to one of ordinary skill in the art at the time the invention was made to use refractory material comprising silicon carbide, as taught by Takada et al. in quench gasifier of Haneda et al. for the purpose of providing material that is known to offer high resistance to corrosion and temperature. Use of refractory material comprising silicon carbide in the quench gasifier of Haneda et al. would amount to nothing more than a use of a known material for its intended use in a known environment to accomplish entirely expected result.

Regarding limitations recited in claim 10 which are directed to a manner of operating disclosed gasifier, the examiner notes that neither the manner of operating a disclosed device nor material or article worked upon further limit an apparatus claim. Said limitations do not differentiate apparatus claims from prior art. See MPEP § 2114 and 2115.

11. Claims 10 and 21 are rejected under 35 U.S.C. 103(a) as being unpatentable over Haneda et al. (JP 61-235493) in view of Takada et al. (JP 61-222939), and further in view of Titus et al. (USP 5,666,891).

Regarding claim(s) 21, Haneda et al. disclose(s) similar quench gasifier comprising:

- a combustion chamber (1);
- a quench chamber (6) adjacent to said combustion chamber (1); wherein
- said combustion chamber (1) includes a throat (Fig. 2) for directing produced gases from the combustion chamber (1) to the quench chamber (6); wherein
- said throat comprises a face comprising refractory material (11); and
- an electrical heating element (14) behind said face.

Haneda et al. does not explicitly disclose that said refractory material (11) selected from the group consisting of silicon carbide and silicon nitride.

Takada et al. (Abstract) teaches that refractory material comprising silicon carbide can be used in contact with molten slag. Said refractory material offers high resistance to corrosion and heat.

It would have been obvious to one of ordinary skill in the art at the time the invention was made to use refractory material selected from the group consisting of silicon carbide and silicon nitride, as taught by Takada et al. in the quench gasifier of Haneda et al. for the purpose of providing material which was known to withstand high temperature and corrosion in a high temperature, corrosive environment. Use of refractory material selected from the group consisting of silicon carbide and silicon nitride in the quench gasifier of Haneda et al. would amount to nothing more than a use of a known material for its intended use in a known environment to accomplish entirely expected result.

Haneda et al. does not explicitly disclose that heating element comprising graphite.

Titus et al. teaches that graphite is preferred heating element material, because, among other benefits, it offers much higher current capability than metal elements (C3/L30-36).

It would have been obvious to one of ordinary skill in the art at the time the invention was made to use electric heating element comprising graphite, as taught by Titus et al., in the quench gasifier of Haneda et al. for the purpose of increasing current capability of said heating element.

Regarding limitations recited in claim 21 which are directed to specific properties of a material recited in said claim, the examiner notes once a face is disclosed to comprise a material selected from the group consisting of silicon carbide and silicon nitride, it will, inherently, display recited properties.

***Conclusion***

12. In view of the foregoing, none of the claims are allowed.

13. Any inquiry concerning this communication or earlier communications from the examiner should be directed to examiner Basia Ridley, whose telephone number is (703) 305-5418. The examiner can normally be reached on Monday through Thursday, from 8:30 AM to 7:00 PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Marian Knodel, can be reached on (703) 308-4311.

The fax phone number for Group 1700 is (703) 872-9311 (for Official papers after Final), (703) 872-9310 (for other Official papers) and (703) 305-6078 (for Unofficial papers). When filing a fax in Group 1700, please indicate in the Header (upper right) "Official" for papers that are to be entered into the file, and "Unofficial" for draft documents and other communication with the PTO that are not for entry into the file of the application. This will expedite processing of your papers.

Any inquiry of a general nature or relating to the status of this application should be directed to the Group receptionist whose telephone number is (703) 308-0661.

Basia Ridley  
Examiner  
Art Unit 1764

*[Signature]*  
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OCT 17 2002

BR  
November 1, 2002

## **Attachment for PTO-948 (Rev. 03/01, or earlier)**

6/18/01

**The below text replaces the pre-printed text under the heading, "Information on How to Effect Drawing Changes," on the back of the PTO-948 (Rev. 03/01, or earlier) form.**

### **INFORMATION ON HOW TO EFFECT DRAWING CHANGES**

#### **1. Correction of Informalities -- 37 CFR 1.85**

New corrected drawings must be filed with the changes incorporated therein. Identifying indicia, if provided, should include the title of the invention, inventor's name, and application number, or docket number (if any) if an application number has not been assigned to the application. If this information is provided, it must be placed on the front of each sheet and centered within the top margin. If corrected drawings are required in a Notice of Allowability (PTOL-37), the new drawings **MUST** be filed within the **THREE MONTH** shortened statutory period set for reply in the Notice of Allowability. Extensions of time may **NOT** be obtained under the provisions of 37 CFR 1.136(a) or (b) for filing the corrected drawings after the mailing of a Notice of Allowability. The drawings should be filed as a separate paper with a transmittal letter addressed to the Official Draftsperson.

#### **2. Corrections other than Informalities Noted by Draftsperson on form PTO-948.**

All changes to the drawings, other than informalities noted by the Draftsperson, **MUST** be made in the same manner as above except that, normally, a highlighted (preferably red ink) sketch of the changes to be incorporated into the new drawings **MUST** be approved by the examiner before the application will be allowed. No changes will be permitted to be made, other than correction of informalities, unless the examiner has approved the proposed changes.

#### **Timing of Corrections**

Applicant is required to submit the drawing corrections within the time period set in the attached Office communication. See 37 CFR 1.85(a).

Failure to take corrective action within the set period will result in **ABANDONMENT** of the application.

06/01/01